

REMARKS

This Amendment and Response is submitted in response to the Office Action mailed 23 DECEMBER 2003. Withdrawal of the rejection and reconsideration with an eye toward allowance is respectfully requested.

Claim Status

Claims 1-36 are pending after entry of the present amendment. Claims 1-18 stand rejected. Claims 1 and 8-12 are amended herein for technical clarity. Claims 19-36 are added. A complete listing of all claims that are, or were in the application, along with an appropriate status identifier, is provided above in the section entitled "Amendments to the Claims". Markings are provided on claims amended in the present amendment.

Support for the above claim amendments can be found throughout the originally filed specification, claims, and drawings. See, for example, pages 9, 10, and 12.

Claim Rejections – 35 U.S.C. §103(a)

Claims 1-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ben-Shaul et. al. (U.S. Patent Application No. 2002/0010798) in view of Sen et al. "Proxy Prefix Caching for Multimedia Streams," IEEE, 1999. Applicant submits that neither reference, nor the references in combination, teach or suggest "a size of the prefix is determined, at least in part, by anticipated demand for said media object" or "reserving sufficient network bandwidth on a connection between the edge server and the origin server," as recited in Applicant's independent claims.

Ben-Shaul is directed toward a differentiated content and application delivery technique via Internet (see title, abstract). As a preliminary matter, Applicant notes that the Ben-Shaul application was filed on Feb. 16, 2001, after Applicant's filing date of Jan. 29, 2001. The Ben-Shaul application claims priority to two provisional applications – U.S.S.N.s 60/198,908 and 60/232,580. Should the Examiner maintain a rejection over Ben-Shaul, Applicant respectfully requests that the Examiner provide copies of the relied upon provisional applications to which priority is claimed and citations to the sections of the priority provisional applications demonstrating support for the disclosure relied on by the Examiner in published U.S. Application 2002/0010798. Ben-Shaul provides systems where content providers are enabled to define and carry out advanced services on the edges of the Internet (see [0031]). Each edge server implements the policy that is specified by the content provider and other sources of control (see [0037]).

Sen is directed toward proxy prefix caching for multimedia streams (see title). Sen discloses that a proxy stores the initial frames of popular clips (see abstract).

In contrast, Applicant's independent claims 1, 9, 10, and 12 recite "a size of the prefix is determined, at least in part, by anticipated demand for said media object". The Examiner concedes that

Ben-Shaul does not teach storing a prefix on an edge server computer, the prefix comprising a beginning portion of said media object (see Office Action, page 2). Applicant further submits that Sen is limited to disclosure of the storing of prefixes on a proxy server, and a theoretical discussion of smoothing (see page two, column one, last paragraph). Neither reference discloses, teaches, or suggests that a size of a prefix is determined, at least in part, by anticipated demand for the media object. Accordingly, Applicant submits that independent claims 1, 9, 10, and 12 are patentable over Ben-Shaul in view of Sen. Further, claims 2-7 and 13-18 depend from and include all limitations of independent claims 1 and 12, respectively and are accordingly patentable over the cited references for at least the reasons discussed above.

Further, Applicant's independent claims 8 and 11 recite "if the media object is not stored on the edge server, fetching a sufficient portion of the media object, reserving sufficient network bandwidth on a connection between the edge server and the origin server". As stated above, the Examiner concedes that Ben-Shaul does not disclose fetching of a portion of a media object. Applicant further submits that Sen is limited to disclosure of online smoothing and prefix storage on a proxy. Sen does not disclose a method including reserving bandwidth for streaming of a media object. Accordingly, Applicant submits that independent claims 8 and 11 are patentable over Ben-Shaul in view of Sen.

With further regard to Claims 3-5, the Examiner states that Ben-Shaul teaches the method wherein said prefix is distributed to an edge server computer based on anticipated demand, measured usage, and connection between said origin server computer and said edge server (see office action, page 4). Applicant respectfully submits that Ben-Shaul does not disclose these features, and that Ben-Shaul does not disclose the use of prefixes. Ben-Shaul is limited to disclosure of a system allowing content providers to carry out services on Internet edges. Ben-Shaul discloses that some differentiation 'rules' may be provided internally by the content delivery and distribution – e.g. depending on the demand for some resources, content providers are unable to alter the delivery despite some important parameters (see [0019]). Applicant submits that this disclosure is limited to changing the privileges of content provides based on demand for a system resource. Applicant respectfully submits that the disclosure of Ben-Shaul is not analogous to Applicant's disclosure of distributing a prefix of a media object based on anticipated demand for the media object, as recited in Claim 3, or based on measured usage as recited in Claim 4, or based on a connection between the origin server and edge server, as recited in Claim 5.

Accordingly, Applicant further submits that Claims 3-5 are patentable over Ben-Shaul in view of Sen.

New Claims

Applicant has added new claims 19-36. New claims 19-29 are patentable over the cited art at least because the claims depend from and include all limitations of claims discussed above. New claim 30 recites "reserving an amount of network bandwidth between the first and second servers, reserving an amount of disk bandwidth on the storage device, storing a prefix comprising a portion of the media object

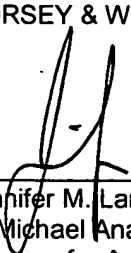
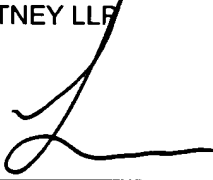
at the edge server, initiating playback of the prefix and transferring a remaining portion of the media object to the edge server if the prefix is large enough to playback the media object at the minimum playback rate using the amount of network bandwidth and the amount of disk bandwidth". Applicant submits that the cited art do not disclose these features. Claims 31-36 depend from and include all limitations of new independent claim 30.

CONCLUSION

Applicants submit the claims are in condition for allowance, and notification of such is respectfully requested. If after review, the Examiner feels there are further unresolved issues, the Examiner is invited to call the undersigned at (415) 781-1989.

Respectfully submitted,

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